

What Works Clearinghouse



English Language Learners

February 15, 2007

Bilingual Cooperative Integrated Reading and Composition

Program description

The *Bilingual Cooperative Integrated Reading and Composition (BCIRC)* program, an adaptation of the *Cooperative Integrated Reading and Composition (CIRC)* program, was designed to help Spanish-speaking students succeed in reading Spanish and then making a successful transition to English reading. In

the adaptation, students complete tasks that focus on reading, writing, and language activities in Spanish and English, while working in small cooperative learning groups. The intervention focuses on students in grades 2–5.

Research

One study of *BCIRC* met the What Works Clearinghouse (WWC) evidence standards with reservations. The study included 222

students in second and third grades from seven schools in El Paso, Texas.¹

Effectiveness

BCIRC was found to have potentially positive effects on reading achievement and English language development.

	Reading achievement	Mathematics achievement	English language development
Rating of effectiveness	Potentially positive	na	Potentially positive
Improvement index ²	Average: +23 percentile points	na	Average: +11 percentile points

na = not applicable

1. The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.
2. A total of 85 students (52 in the treatment group, 33 in the comparison group) were posttested. These numbers show the average and range of improvement indices for all findings across the study.

Additional program information

Developer and contact

BCIRC was adapted from *CIRC* by the study authors. *CIRC* was developed by Stevens, Madden, Slavin, and Farnish (1987)³ at the Center for Social Organization of Schools, Johns Hopkins University. *BCIRC* is related to *Alas Para Leer*, an adaptation of *Reading Wings* for English language learners. In fact, *BCIRC* is now offered as *Reading Wings* on the Success for All website. All related programs are distributed by Success for All Foundation, Inc. Address: 200 W. Towsontown Boulevard, Baltimore, MD 21204-5200. Email: Dr. Madden at nmadden@successforall.org. Web: <http://www.successforall.org>. Telephone: (800) 548-4998 ext. 2372.

Scope of use

BCIRC is used as students make the transition from their primary language to English language reading instruction in grades 2–5. *BCIRC* was developed for use with students whose primary home language is Spanish.

Teaching

Teachers combined *CIRC* strategies with other transitional and English as a Second Language strategies to facilitate the development of language and reading skills in English. Several features were borrowed from *CIRC* to develop the *BCIRC* program. Fifteen activities occur before, during, and after reading, including using *BCIRC* materials to develop vocabulary, making predictions of a story's content based on its title, and reading with a partner followed by silent reading. Teachers in the *BCIRC* program received extensive staff development on how to use a constructivist framework to facilitate student cooperative learning discussions and discourse.

Cost

There is no information available on the cost of the intervention.

Research

One study reviewed by the WWC investigated the effects of *BCIRC* on the reading achievement and English language development of English language learners. The study (Calderón, Hertz-Lazarowitz, & Slavin, 1998) was a quasi-experimental design that met WWC evidence standards with reservations.⁴ All students in the experimental schools ($n = 3$) and comparison schools ($n = 4$) were enrolled in bilingual programs and transitioning into English language instruction.

Students in the comparison group participated in round-robin oral reading exercises and used workbooks for practice activities. A total of 222 Spanish-speaking English language learners in two cohorts participated in the project.⁵ However, only third graders were tested in English, so they are the only students included in this intervention report. At the time of posttesting, there were 85 third-grade students ($n = 52$ for *BCIRC* and $n = 33$ for control).

3. Stevens, R. J., Madden, N. A., Slavin, R. E., & Farnish, A. M. (1987). Cooperative Integrated Reading and Composition: Two field experiments. *Reading Research Quarterly*, 22, 433–454.

4. The study authors are also the program developers.

5. Two cohorts of students were involved in the study. Outcomes for only one cohort are discussed in this report, however, because students in the second cohort were not assessed on English language measures due to district policy and practice.

Effectiveness Findings

The WWC review of interventions for English language learners addresses student outcomes in three domains: reading achievement, mathematics achievement, and English language development.

Reading achievement. Calderón, Hertz-Lazarowitz, and Slavin (1998) found statistically significant differences between the English language learners who participated in the *BCIRC* program and students in the comparison group.⁶ The WWC analysis, however, could not confirm the statistical significance of this finding because it was necessary to correct for clustering. The size of the effect was large enough to be considered substantively important, however, so the intervention in this study had potentially positive effects on reading achievement, according to WWC standards.

English language development. Calderón, Hertz-Lazarowitz, and Slavin (1998) did not find statistically significant differences

in English language development between the English language learners who participated in the *BCIRC* program and students in the comparison group.⁷ The effect size, however, was large enough to be considered substantively important. So the intervention in this study had potentially positive effects on English language development, according to WWC standards.

Rating of effectiveness

The WWC rates the effects of an intervention in a given outcome domain as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative. The rating of effectiveness takes into account four factors: the quality of the research design, the statistical significance of the findings,⁸ the size of the difference between participants in the intervention and comparison conditions, and the consistency in findings across studies (see the [WWC Intervention Rating Scheme](#)).

The WWC found *BCIRC* to have potentially positive effects on reading achievement and English language development

Improvement index

The WWC computes an improvement index for each individual finding. In addition, within each outcome domain, the WWC computes an average improvement index for each study and an average improvement index across studies (see [Technical Details of WWC-Conducted Computations](#)). The improvement index represents the difference between the percentile rank of the average student in the intervention condition versus the percentile rank of the average student in the comparison condition. Unlike the rating of effectiveness, the improvement index is entirely based on the size of the effect, regardless of the statistical significance of the effect, the study design, or the analyses. The improvement index can take on values between -50 and +50, with positive numbers denoting results favorable to the intervention group.

The average improvement index is +23 percentile points for reading achievement and +11 percentile points for English language development for the one study reviewed.

Summary

The WWC reviewed one study on *BCIRC*, which met WWC evidence standards with reservations. Based on this study, the WWC found potentially positive effects on both reading achievement and English language development. Specifically, the statistically significant findings for the percentage of students meeting the bilingual education exit criterion is an important and promising finding. The evidence presented in this report is limited and may change as new research emerges.

6. At the end of third grade, 32% of students in the *BCIRC* group scored above the 40th percentile on the Norm-Referenced Assessment Program for Texas (NAPT) reading test, qualifying them to exit their bilingual education program. By contrast, only 10% of students in the comparison group met this criterion.
7. At the end of third grade, 39% of students in the *BCIRC* group scored above the 40th percentile on the Norm-Referenced Assessment Program for Texas (NAPT) language test, qualifying them to exit their bilingual education program. By contrast, 21% of students in the comparison group met this criterion.
8. The level of statistical significance was reported by the study authors or, where necessary, calculated by the WWC to correct for clustering within classrooms or schools and for multiple comparisons. For an explanation, see the [WWC Tutorial on Mismatch](#). See [Technical Details of WWC-Conducted Computations](#) for the formulas the WWC used to calculate the statistical significance. In the case of *BCIRC*, a correction for clustering was needed.

References **Met WWC evidence standards with reservations**

Calderón, M., Hertz-Lazarowitz, R., & Slavin, R. (1998). Effects of Bilingual Cooperative Integrated Reading and Composition on students making the transition from Spanish to English reading. *Elementary School Journal*, 99(2), 153–165.

Additional source:

Calderón, M., Hertz-Lazarowitz, R., Ivory, G., & Slavin, R. E. (1997). Effects of Bilingual Cooperative Integrated Reading and Composition on students transitioning from Spanish to English reading (Report No. 10). Baltimore, MD: Center for Research on the Education of Students Placed at Risk. (ERIC Document Reproduction Service No. ED405428).

For more information about specific studies and WWC calculations, please see the [WWC Bilingual Cooperative Integrated Reading and Composition Technical Appendices](#).